IN THE CLAIMS

What is claimed is:

1	1. A dynamic server directory system, comprising:						
2	at least one relational table that includes a plurality of entries that can						
3		each store location data, status data, and feature data of server processes in a					
4		distributed computing system that services client requests; and					
5		an interface that may provide at least one entry from the at least one					
6		relational table to a client.					
1	2.	The dynamic server directory system of claim 1, wherein:					
2		the location data of an entry may comprise a network address; and					
3		the entry may include a server name to identify a specific server at the					
4		network address.					
1	3.	The dynamic server directory system of claim 1, further including:					
2	a route table that can indicate at least one communication route to a						
3		server host and the status of said route.					
1	4.	The dynamic server directory system of claim 1, further including:					
2		a plurality of dynamic server directory agents that reside on different					
3	host	machines than the dynamic server directory, each dynamic server directory agent					
4	cach	ing at least a portion of the at least one relational table.					

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1	5.	The dynamic server directory system of claim 1, wherein:					
2		the relational table includes a key field that may be searched by a key					
3	prefix	value that can filter entries according to client request criteria					
1	6.	The dynamic server directory system of claim 1, further including:					
2		a plurality of dynamic server directory agents that reside on different					
3		host machines than the dynamic server directory, each dynamic server					
4		directory agent forwarding new server process information to the dynamic					
5		server directory when a new server process is added; and					
6		the dynamic server directory creating a new entry in the at least one					
7		relational table corresponding to the server process and forwarding the					
8		updated relational table to dynamic server directory agents.					
1	7.	The dynamic server directory system of claim 1, wherein:					
2		the distributed computing system includes at least two subsystems that					
3		provide different functions; and					
4		the at least one relational table includes a plurality of relational tables,					
5		each relational table including entries corresponding to server processes of					
6		one of the subsystems.					

8. The dynamic server directory system of claim 1, wherein:

the at least one relational table includes a server relational table that identifies a server route corresponding to a given server process and a route

4	relational table that identifies a communication route corresponding to a given
5	host machine.

9. The dynamic server directory system of claim 8, further including:

the interface searches the server relational table and then the route relational table to determine the route to a host machine for a given server process.

10. The dynamic server directory system of claim 1, further including:

a plurality of dynamic server directory agents that reside on different host machines than the dynamic server directory, each dynamic server directory agent receiving periodic status communications from at least one server process and notifying the dynamic server directory when status communications fail; and

the dynamic server directory changes entries in the at least one relational table in response to status communication failures.

11. The dynamic server directory of claim 10, further including:

a service master process that may subscribe with the DSD agent to be notified of changes to the at least one relational table, the service master performing at least one predetermined error response when the change to the at least one relational table indicates a status communication failure has occurred in a server process; and

the dynamic server directory forwards changes in the at least one relational table to the DSD agent.

12. The dynamic server directory of claim 11, wherein:

the predetermined error response may be at least one response selected from the group consisting of: attempting to restart the server process corresponding to the failure, logging the failure error, notifying a system administrator, generating a work order for the server process corresponding to the error, activating another server process as a back-up to the server process corresponding to the failure, shutting down a host machine for the server process corresponding to the failure, and rebooting a host machine for the server process corresponding to the failure.

13. The dynamic server directory of claim 1, wherein:

a plurality of client processes that may subscribe to be notified of changes to the at least one relational table, a client process performing a resubmission of all requests sent on a particular currently valid server route when the change to the at least one relational table indicates a failure in the server process, or the route to the server process.

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14.	A system	comprising:
7.4.	11 System,	comprising.

a plurality of servers that may perform predetermined operations according to requests from clients; and

a dynamic server directory that includes a plurality of relational tables, each relational table storing feature information for the plurality of servers, the feature information being accessible by a client to determine which server may service a particular client request; and

a plurality of dynamic server directory agents that may perform predetermined operations according to client subscriptions.

15. The system of claim 14, wherein:

the plurality of servers include storage servers that may access stored files and metadata servers that may access metadata for the stored files.

16. The system of claim 14, wherein:

the dynamic server directory agent includes an interface that may provide access to the relational tables in response to an action selected from the group consisting of: the addition of a new entry to a relational table, deletion of a entry from a relational table, search for a key, search for a server, subscription to notification of changes in status, and maintenance of current process information..

17. The system of claim 14, further including:

2		the plurality of servers reside on server most machines, and
3		each server host machine further includes a dynamic server directory
4		agent that caches at least a portion of at least one relational table and is
5		accessible by a client.
1	18.	A method of controlling client requests in a distributed computing system having a
2	plural	ity of servers, comprising the steps of:
3		maintaining server information in a dynamic server directory (DSD)
4		for the servers that indicates availability of a server for particular client
5		requests;
6		caching server information in dynamic server directory agents
7		(DSDAs);
8		selecting a server for a particular client request from server
9		information cached in a DSD;
10		monitoring servers with DSDAs and forwarding server status
11		information to the DSD;
12		changing server information in the DSD for a selected server in
13		response to server status information; and
14		forwarding changed server information to DSDAs.
1	19.	The method of claim 18, wherein:
2		selecting a server includes a client invoking an interface function of a
3		DSDA residing on the same host machine as the client.

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20.	The	method	of	claim	18,	wherein:
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selecting a server includes searching a first server information relational table to determine a server route including a host machine on which a desired server resides, and searching a second server information relational table to determine a route to the host machine.

21. The method of claim 18, wherein:

the server information includes

at least one server relational table having entries that comprise server identification, server route identification including host machine identification, and a server status indication for each server process, and

at least one route relational table having entries that comprise host machine identification, route information, and host machine status indication.

22. The method of claim 21, further including:

the plurality of servers includes a gateway servers that control access to the distributed computing system, metadata servers that access metadata for stored files, and storage servers that store files; and

the at least one server relational table includes a gateway server relational table, a metadata server relational table, and a storage server relational table.